

REMARKS

The specification has been amended to correct a typographical error.

Claims 63-67, 69-74, 79-83, 85-91, 96-100, 102-107, 112-115, 117-122, 127-130, 132-137, 142-144 and 196-201 have been canceled.

Claims 68, 75, 77, 84, 92, 94, 101, 108, 110, 116, 123, 125, 131, 138, 140, 145 have been amended.

New claims 202-225 are submitted for prosecution.

Claims 68, 75-78, 84, 92-95, 101, 108-111, 116, 123-126, 131, 138-141, 145-195 and 202-225 remain in the application. Of these, claims 68, 84, 101, 116, 131 and 145 are independent apparatus claims.

The Examiner indicates that claims 68, 75-78, 84, 92-95, 101, 108-111, 116, 124-126, 131, 138-141 and 145-195 are objected to as being dependent upon a rejected based claim, but would be allowable if rewritten in independent form. The claims have been amended in view of this indication of allowability as follows:

1. Claim 68 has been amended to incorporate the subject matter of claims 63 and 68.
2. Claim 75 has been amended to incorporate the subject matter of claims 63 and 75.
3. Claim 77 has been amended to depend on claim 75.
4. Claim 84 has been amended to incorporate the subject matter of claims 79 and 84.
5. Claim 92 has been amended to incorporate the subject matter of claims 79 and 92.
6. Claim 94 has been amended to depend on claim 92.
7. Claim 101 has been amended to incorporate the subject matter of claims 98 and 101.
5. Claim 108 has been amended to incorporate the subject matter of claims 98 and 108.
6. Claim 110 has been amended to depend on claim 108.
7. Claim 116 has been amended to incorporate the subject matter of claims 113 and 116.
8. Claim 131 has been amended to incorporate the subject matter of claims 128 and 131.
9. Claim 138 has been amended to incorporate the subject matter of claims 128 and 138.
10. Claim 140 has been amended to incorporate the subject matter of claims 128 and 140.
11. Claim 145 has been amended to incorporate the subject matter of claims 63, 66,

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143, 144 and 145.

The Examiner does not list claim 123 as allowable subject matter. However, the Examiner does not provide a rejection for claim 123 under 35 U.S.C. §102 or §103. Therefore, Applicant believes that the Examiner intended to indicate that claim 123 is allowable. Accordingly, claim 123 has been amended to incorporate the subject matter of claim 113 and 123. Claim 125 has been amended to depend on claim 123.

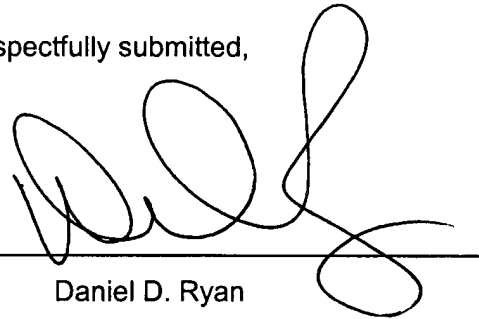
New dependent claims 202-225 further define the features of claim 68.

Claims 63-201 stand rejected under the doctrine of obviousness-type double patenting over claims 1-21 of U.S. Patent No. 6,241,734 (the '734 Patent). The Examiner indicates that this rejection may be overcome by the filing of a terminal disclaimer. A terminal disclaimer based on the '734 Patent is submitted herewith.

Applicant believes the case is now in condition for allowance. Allowance of claims 68, 75-78, 84, 92-95, 101, 108-111, 116, 123-126, 131, 138-141, 145-195 and 202-225 is respectfully requested.

Respectfully submitted,

By

A handwritten signature in black ink, appearing to read 'D. Ryan', is written over a horizontal line.

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Marked-Up Version of Amended Paragraph beginning on Page 32, Line 32

The selected material 170 can also comprise demineralized bone matrix suspended in glycerol (e.g., Grafton™ allograft material available from Osteotech), or SRS™ calcium phosphate cement available from [Novian] Norian. These viscous materials, like the bone cement previously described, can be loaded into the syringe 104 and injected into the cavity using the nozzle 106, which is inserted through the cannula instrument 30 into the cavity. The tamping instrument 108 is used to displace residual material from the cannula instrument 30 into the cavity, as before described.

Marked-Up Version of Pending Claims

68, 75, 77, 84, 92, 94, 101, 108, 110, 116, 123, 125, 131, 138, 140, 145

68 (Amended). Apparatus [according to claim 63] for delivering material into bone comprising
a cannula for establishing a subcutaneous path into bone [wherein the cannula includes]
and including at least one radiopaque marker, and
a tamping instrument having a tamping terminus,
the tamping instrument being sized and configured for manipulation independent of the
cannula to enable insertion of the tamping instrument into the cannula, advancement of the tamping
terminus in the cannula to urge material residing in the cannula into bone, and withdrawal of the
tamping terminus from the cannula.

75 (Amended). Apparatus [according to claim 63] for delivering material into bone comprising
a cannula for establishing a subcutaneous path into bone, and
a tamping instrument having a tamping terminus [wherein the tamping instrument
includes] and including at least one marking to visually gauge the advancement of the terminus
relative to the distal end of the cannula,
the tamping instrument being sized and configured for manipulation independent of the
cannula to enable insertion of the tamping instrument into the cannula, advancement of the tamping
terminus in the cannula to urge material residing in the cannula into bone, and withdrawal of the
tamping terminus from the cannula.

77 (Amended). Apparatus according to claim [63] 75
wherein the tamping instrument includes a set point marking spaced from the terminus
at a distance generally equal to the length of the cannula.

84 (Amended). Apparatus [according to claim 79] for delivering material into bone comprising
a cannula for establishing a subcutaneous path into bone, the cannula [wherein the
cannula includes] including at least one radiopaque marker and being sized and configured to
accept insertion and withdrawal of a first instrument in the cannula, and
a tamping instrument separate from the first instrument having a tamping terminus,
the tamping instrument being sized and configured for manipulation independent of the
cannula to enable insertion of the tamping instrument into the cannula and advancement of the
tamping terminus in the cannula to urge material residing in the cannula into bone.

92 (Amended). Apparatus [according to claim 84] for delivering material into bone

comprising

a cannula for establishing a subcutaneous path into bone, the cannula being sized and configured to accept insertion and withdrawal of a first instrument in the cannula, and
a tamping instrument separate from the first instrument having a tamping terminus,
the tamping instrument [wherein the tamping instrument includes] including at least one
marking to visually gauge the advancement of the terminus relative to the distal end of the cannula
and being sized and configured for manipulation independent of the cannula to enable insertion of
the tamping instrument into the cannula and advancement of the tamping terminus in the cannula to
urge material residing in the cannula into bone.

94 (Amended). Apparatus according to claim [79] 92

wherein the tamping instrument includes a set point marking spaced from the terminus at a distance generally equal to the length of the cannula.

101 (Amended). Apparatus [according to claim 98] for delivering material into bone
comprising

a cannula for establishing a subcutaneous path into bone [wherein the cannula includes]
and including at least one radiopaque marker; and
a tamping instrument for advancement through the cannula comprising a body portion
and a handle portion,
the handle portion having a cross-sectional area greater than the cross-sectional area of
the body portion.

108 (Amended). Apparatus [according to claim 101] for delivering material into bone
comprising

a cannula for establishing a subcutaneous path into bone; and
a tamping instrument for advancement through the cannula [wherein the tamping
instrument includes] including at least one marking to visually gauge the advancement of the
terminus relative to the distal end of the cannula and comprising a body portion and a handle
portion,

the handle portion having a cross-sectional area greater than the cross-sectional area of
the body portion.

110 (Amended). Apparatus according to claim [98] 108

wherein the tamping instrument includes a set point marking spaced from the terminus at a distance generally equal to the length of the cannula.

116 (Amended). Apparatus [according to claim 113] for delivering material into bone
comprising

a cannula for establishing a subcutaneous path into bone [wherein the cannula includes] and including at least one radiopaque marker; and

a tamping instrument for advancement through the cannula comprising a body portion and a handle portion, the body portion being sized and configured to substantially fill the cannula when the tamping instrument is fully inserted into the cannula.

123 (Amended). Apparatus [according to claim 113] for delivering material into bone comprising

a cannula for establishing a subcutaneous path into bone; and

a tamping instrument for advancement through the cannula [wherein the tamping instrument includes] including at least one marking to visually gauge the advancement of the terminus relative to the distal end of the cannula, and comprising a body portion and a handle portion, the body portion being sized and configured to substantially fill the cannula when the tamping instrument is fully inserted into the cannula.

125 (Amended). Apparatus according to claim [113] 123

wherein the tamping instrument includes a set point marking spaced from the terminus at a distance generally equal to the length of the cannula.

131 (Amended). Apparatus [according to claim 128] for delivering material into bone comprising

a cannula for establishing a subcutaneous path into bone [wherein the cannula includes] and including at least one radiopaque marker; and

a tamping instrument for advancement through the cannula comprising a body portion and a handle portion, the body portion having a substantially constant diameter along its length.

138 (Amended). Apparatus [according to claim 131] for delivering material into bone comprising

a cannula for establishing a subcutaneous path into bone; and

a tamping instrument for advancement through the cannula [wherein the tamping instrument includes] including at least one marking to visually gauge the advancement of the terminus relative to the distal end of the cannula and comprising a body portion and a handle portion, the body portion having a substantially constant diameter along its length.

140 (Amended). Apparatus [according to claim 131] for delivering material into bone comprising

a cannula for establishing a subcutaneous path into bone; and

a tamping instrument for advancement through the cannula [wherein the tamping instrument includes] including a set point marking spaced from the terminus at a distance generally

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equal to the length of the cannula and comprising a body portion and a handle portion, the body portion having a substantially constant diameter along its length.

145 (Amended). Apparatus [according to claim 144] for delivering material into bone comprising

a cannula for establishing a subcutaneous path into bone,

the cannula comprising a generally rigid material [wherein the cannula includes] and including at least one radiopaque marker,

a tamping instrument comprising a generally rigid material and having a tamping terminus,

the tamping instrument being sized and configured for manipulation independent of the cannula to enable insertion of the tamping instrument into the cannula, advancement of the tamping terminus in the cannula to urge material residing in the cannula into bone, and withdrawal of the tamping terminus from the cannula, and

a handle carried by the proximal end of the tamping instrument.